off the crown, he will receive a terrible blow, and fail in the attempt. If the picture were highly charged, the conſequence might perhaps be as fatal as that of high-treaſon; for when the ſpark is taken through a quire of paper laid on the picture, by means of a wire communication, it makes a fair hole through every ſheet, that is, through 48 leaves, (though a quire of paper is thought good armour againſt the puſh of a ſword or even againſt a piſtol bullet) and the crack is exceeding loud. The operator, who holds the picture by the upper-end, where the inſide of the frame is not gilt, to prevent its falling, feels nothing of the ſhock, and may touch the face of the picture without danger, which he pretends is a teſt of his loyalty. --- If a ring of perſons take the ſhock among them, the experiment is called, *The Conſpirators*.

21. On the principle, in § 7, that hooks of bottles, differently charged, will attract and repel differently, is made an electrical wheel, that turns with conſiderable ſtrength. A ſmall upright ſhaft of wood paſſes at right angles through a thin round board, of about twelve inches diameter, and turns on a ſharp point of iron fixed in the lower end, while a ſtrong wire in the upper-end paſſing thro' a ſmall hole in a thin braſs plate, keeps the ſhaft truly vertical. About thirty *radii* of equal length, made of ſaſh glaſs cut in narrow ſtrips, iſſue horizontally from the circumference of the board, the ends moſt diſtant from the center being about four inches apart. On the end of every one, a braſs thimble is fixed. If now the wire of a bottle electrified in the

common way, be brought near the circumference of this wheel, it will attract the neareſt thimble, and ſo put the wheel in motion; that thimble, in paſſing by, receives a ſpark, and thereby being electrified is repelled and ſo driven forwards; while a ſecond being attracted, approaches the wire, receives a ſpark, and is driven after the firſt, and ſo on till the wheel has gone once round, when the thimbles before electrified approaching the wire, inſtead of being attracted as they were at firſt, are repelled, and the motion preſently ceaſes. --- But if another bottle which had been charged through the coating be placed near the ſame wheel, its wire will attract the thimble repelled by the firſt, and thereby double the force that carries the wheel round; and not only taking out the fire that had been communicated to the thimbles by the firſt bottle, but even robbing them of their natural quantity, inſtead of being repelled when they come again towards the firſt bottle, they are more ſtrongly attracted, ſo that the wheel mends its pace, till it goes with great rapidity twelve or fifteen rounds in a minute, and with ſuch ſtrength, as that the weight of one hundred *Spaniſh* dollars with which we once loaded it, did not ſeem in the leaſt to retard its motion. --- This is called an electrical jack; and if a large fowl were ſpitted on the upright ſhaft, it would be carried round before a fire with a motion fit for roaſting.

22. But this wheel, like thoſe driven by wind, water, or weights, moves by a foreign force, to wit, that of the bottles. The ſelf-moving wheel, though conſtructed on the

BENJAMIN FRANKLIN *Experiments and Observations on Electricity* LONDON, 1751 THE WARNOCK LIBRARY Octavo